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(54) **SYSTEMS AND METHODS FOR ALARM FILTERING AND MANAGEMENT WITHIN A REAL-TIME DATA ACQUISITION AND MONITORING ENVIRONMENT**

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See application file for complete search history.

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(57) **ABSTRACT**

A system for filtering and interpreting real-time sensory data from an electrical system is disclosed. The system includes a data acquisition component, a power analytics server and a client terminal. The data acquisition component acquires real-time data output from the electrical system. The power analytics sewer is comprised of a virtual system modeling engine, an analytics engine, and a decision engine.

The virtual system modeling engine generates predicted data output for the electrical system. The analytics engine monitors real-lime data output and predicted data output of the electrical system. The decision engine compares the real-time data output against the predicted data output to filter out and interpret indicia of electrical system health and performance.

The client terminal is communicatively connected to the power analytics server and configured to display the filtered and interpreted indicia.

42 Claims, 24 Drawing Sheets